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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HOKE, VERONICA P

ART UNIT	PAPER NUMBER
1714	✓

DATE MAILED: 12/12/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

ME5

<b>Office Action Summary</b>	Application No. <b>09/688,328</b>	Applicant(s) <b>EBRAHIMIAN</b>
	Examiner <b>VERONICA HOKE</b>	Art Unit <b>1714</b>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)  Responsive to communication(s) filed on \_\_\_\_\_.

2a)  This action is FINAL.      2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

4)  Claim(s) 1-20 is/are pending in the application.

4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-20 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved.

12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

13)  Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)  All b)  Some\* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

15)  Notice of References Cited (PTO-892)      18)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

16)  Notice of Draftsperson's Patent Drawing Review (PTO-948)      19)  Notice of Informal Patent Application (PTO-152)

17)  Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_      20)  Other: \_\_\_\_\_

Art Unit: 1714

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 11 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sibilia et al taken with Beall et al in view of Kawasami et al, Ellsworth, Vaia and applicants admissions regarding the prior art.

Sibilia relates that fluoroplastics intended for electrical insulation purposes are improved in their properties for this role by the inclusion of natural or synthetic clays including organoclays ( col.4).

Beall relates that clays which have been intercalated with an in-situ polymerized monomer improve the dispersion of the clay in the monomer and that the product, termed a nanocomposite is suitable as an additive in thermoplastics in the same capacity as rendered heretofore by the clay per se. Fluoroplastics are alluded to as suitable ( col.16, lines 65 et seq). It would be obvious to compound Sibilia's fluoroplastic with a nanocomposite type clay for the increased electrical insulating properties conferred by its presence. Vaia et al, Kawasami et al and Ellsworth et al are each evidence that fluoroplastics inclusive of Teflon, chlorofluoroethylene and vinylidene fluoride have been utilized previously in rendering possible a nanocomposite type clay. Selecting any one of these materials as a substitute for unmodified clays in Sibilia's composition would be obvious in view of Beall et al.

Art Unit: 1714

The optional presence of curable resins such as polyethylene or an acrylate resin would be obvious to provide the expected rigidity imparted by cured resins' presence. Their addition to fluoroplastics used as electrical insulation media appears to be conceded by applicants to be known and as such is not considered an unobvious adaptation of Sibilia's modified clay composition.

Claims 10 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beall et al, Kawasami et al, Ellsworth, Vaia and Sibilia as applied to claims 1-9,11 and 14-20 above, and further in view of Kutnyak and Thuilliez et al.

To the extent a chlorinated ethylene polymer or PVC is optionally present, their presence as an adjunct resin with fluoroplastics in electrical insulating compositions are shown to be old as both Kutnyak et al and Thuilliez et al relate.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to

Art Unit: 1714

make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The disclosure is not complete in describing what is meant by a "nanoclay". Applicants use of the term appears to correspond rather to the description of an organo clay such as an ammonium chloride modified/ cation exchanged clay. Those products are not nanoclays according to all of the applied art applied supra. Nanoclays required intercalation with a polymer or other organic substance which widens the layers of silicate sheets present within the clay structure. Applicants have failed to provide a precise description of the type nanoclays intended to be used here. As related by the applied art (Beall et al, Ellsworth, Vaia and Kawasami) the products have different properties such that they are not necessarily interchangeable for a given role. Applicants have not provided a precise description of a single suitable product (by commercial identification, patent number providing description of an exact suitable product or disclosure of how to make a specific suitable substance). Undue experimentation would be required by the routineer to determine what specific nanocomposites meets applicants objectives.

vph

December 7, 2001

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